

AMENDMENTS TO THE CLAIMS:

Claims 1, 18, and 27 are amended, and claims 8 and 13-17 are canceled. This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (currently amended) A method for initiating the transmission of data, comprising:

establishing, at a communication engine, a connection from at least one computer data source to a destination;

generating, at the communication engine, sessions to transmit data via the connection from the at least one computer data source to the destination, wherein generating the sessions comprises invoking an application programming interface and receiving session acceptance from the destination via the application programming interface;

queuing a set of messages from the sessions for transmission over the connection to the destination from the data source;

combining, dynamically, messages from at least two separate sessions for the destination having different data sources to generate a combined message stream when the connection has excess bandwidth available to support the combined message stream; and

transmitting messages from the queued set of messages and the combined messages based upon completion information associated with the queued set of messages stored in a queue at a dispatcher, wherein the completion information

comprises results from a completion port operation of at least one of sending or receiving and a window size available at the destination.

2. (original) A method according to claim 1, wherein the step of establishing a connection comprises a step of establishing a connection in a pipe.

3. (original) A method according to claim 1, wherein the step of establishing a connection comprises a step of authenticating at least one of the at least one source and the destination.

4. (original) A method according to claim 3, wherein the step of authenticating comprises a step of authenticating both the at least one source and the destination.

5-6. (canceled).

7. (original) A method according to claim 1, wherein the step of queuing a set of messages comprises a step of queuing the set of messages in at least one input/output buffer.

8. (canceled).

9. (previously presented) A method according to claim 8, further comprising a step of throttling message traffic in the at least one input/output buffer when the completion port is in a full state.

10. (original) A method according to claim 1, wherein the step of transmitting comprises a step of asynchronously transmitting messages from the queued set of messages.

11. (original) A method according to claim 1, wherein the step of transmitting comprises a step of transmitting encrypted messages from the queued set of messages.

12. (original) A method according to claim 1, wherein the step of transmitting comprises a step of transmitting via a transport layer.

13-17. (Canceled).

18. (currently amended) One or more computer-storage media storing instructions for performing a method to send a transmissible message over a communication network, the method comprising:

establishing a connection from at least one data source to a destination;

establishing sessions to transmit data via the connection from the at least one data source to the destination, wherein establishing sessions comprises invoking an application programming interface and receiving a session acceptance from the destination;

queuing at least one message from the sessions for transmission over the connection to the destination, wherein queuing the at least one message comprises queuing the at least one message in at least one input/output buffer and assigning each message varying time periods that cause the message to expire in the queue if an acknowledgement from the destination is not received within the time period;

combining, dynamically, messages from at least two separate sessions for the destination having different data sources to generate a combined message

stream when the connection has excess bandwidth available to support the combined message stream;

and

regulating the communication of the at least one queued message and the combined messages based upon completion information associated with the at least one input/output buffer.

19. (previously presented) The one or more computer-storage media according to claim 18, wherein the step of

establishing a connection comprises a step of establishing a connection in a pipe.

20. (previously presented) The one or more computer-storage media according to claim 18, wherein the step of establishing a connection comprises a step of authenticating at least one of the at least one source and the destination.

21. (previously presented) The one or more computer-storage media according to claim 20, wherein the step of authenticating comprises a step of authenticating both the at least one source and the destination.

22-23. (canceled).

24. (canceled).

25. (previously presented) The one or more computer-storage media according to claim 18, wherein the message completion information comprises results from a completion port operation of at least one of sending or receiving.

26. (previously presented) The one or more computer-storage media according to claim 18, wherein the at least one message comprises at least one encrypted message.

27. (currently amended) A method for transporting large data sets across a communication network, the method comprising:

establishing one or more sessions between a plurality of data sources and a storage server by transmitting session requests from output queues at a dispatcher to a destination queue at the storage server and transmitting an acknowledgement that the session requests are accepted from the storage server to the data source;

buffering data messages received from each data source at an assigned output queue until the assigned output queue is full;

combining, dynamically, messages from at least two separate sessions for the destination having different data sources to generate a combined message stream when a connection between the data sources and storage server has excess bandwidth available to support the combined message stream;

transmitting the data messages and the combined messages to the destination queue at the storage server;

receiving, at the assigned output queue, an acknowledgment receipt of the data messages received from each data source, the acknowledgment receipt comprises a window size available at the destination queue; and

transmitting additional data messages and additional combined messages from the data sources to the destination queue at the storage server based on the window size included in the acknowledgment receipt.